

Material Safety Data Sheet

Identity: Zirconium carbide

Formula: ZrC

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Form Weight:

CAS #	PEL	TLV	%
12070-14-3	5mg/m ³ Zr	5mg/m ³ Zr	100%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States:

Boiling Point: 5100 °C

Melting Point: 3540 °C

Evaporation Rate (Butyl Acetate=1): 0

Solubility in water: Insoluble

Vapor Pressure:

Vapor Density (air = 1): N/A

Percent Volatile : 0

Specific Gravity (water = 1): 6.74

Other: pH @ 100g/L water @68 °F

Appearance and odor: Hard gray, metallic powder, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Flash Point: N/A*Extinguishing Media:*

Flammable solid. Zirconium carbide in the form of a fine powder is highly flammable and may be easily ignited. Use suitable dry powder extinguishing agents.

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eye contact. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

Dust and fumes from this product may be a fire and explosion hazard when exposed to high temperatures or ignition sources.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Excessive heating, sparks, and sources of ignition.

Incompatibility – Materials to avoid: Strong oxidizers, evolves flammable hydrogen gas on contact with acids and bases.

Hazardous Decomposition or Byproducts: Thermal decomposition may produce toxic oxides on contact with acids and bases.

Conditions to Avoid- Hazardous Polymerization: Will not occur.

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? Yes Eyes? Yes

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation, and pulmonary granuloma.

Chronic: Chronic inhalation exposure to zirconium compounds caused x-ray changes in the lungs of rats which are due to the presence of radiopaque particles. This has not been found to cause any reaction or changes in the lung tissue.

Ingestion:

Acute: None known.

Chronic: None known.

Skin:

Acute: May cause irritation.

Chronic: None known.

Eye:

Acute: May cause irritation.

Chronic: None known.

Target Organ: None known.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions generally aggravated by this material: None known

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

Ingestion:

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention immediately.

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention immediately.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling. Use with adequate ventilation.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSHMSHA approved respirator, impervious gloves, safety glasses, clothes to prevent contact, goggles or face shield.

Respiratory Protection (Specify Type): approved dust respirator.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

Engineering use ventilation to maintain exposure levels within OSHA limits.

Environmental Information:

RCRA Code: D001

TCSA Registered: Yes

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established